

jc588 U.S. PTO  
10/22/99

UTILITY PATENT APPLICATION TRANSMITTAL

(for Noncontinuing, Nonprovisional  
Applications under 37 C.F.R. §1.53(b))

Attorney Docket No. 66635

jc588 U.S. PTO  
09/425436 PRO  
10/22/99

Box PATENT APPLICATION  
Commissioner of Patents and Trademarks  
ATTENTION: Assistant Commissioner  
for Patents  
Washington, D.C. 20231

Sir:

Transmitted herewith for filing  
under 37 C.F.R. §1.53(b) is the  
nonprovisional, noncontinuing  
patent application for:

Title: LID FOR COOKING PAN

First Named Inventor or  
Application Identifier: CAPPADONA

) CERTIFICATE OF MAILING BY "EXPRESS MAIL"  
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(X) 9 pages of the specification (including claims) are enclosed.

(X) 3 sheet(s) of drawings are enclosed. ( ) Formal (X) Informal

( ) An executed Oath or Declaration and Power of Attorney naming the actual inventors is enclosed.

(X) The names of persons believed to be the actual inventors are set forth in the enclosed unexecuted Oath or Declaration and Power of Attorney (§1.41(a) and §1.53(b)).

( ) An Assignment(s) of the invention to \_\_\_\_\_, and cover sheet are enclosed.

( ) A check in the amount of \$\_\_\_\_\_ to cover the fee for recording the assignment(s) is enclosed.

( ) A 37 C.F.R. §3.73(b) Statement is enclosed (where an Assignee seeks to take action in a matter before the Patent Office).

( ) An Information Disclosure Statement is enclosed.

( ) A Form PTO-1449 is enclosed.

( ) References (copies) listed on the Form PTO-1449 are enclosed.

(X) A Return Receipt Postcard is enclosed (MPEP §503).

( ) Priority of application number \_\_\_\_\_ filed on \_\_\_\_\_ in \_\_\_\_\_ is claimed under 35 U.S.C. §119.

( ) A certified copy of the priority document is enclosed.

( ) A MicroFiche Computer Program (Appendix) is enclosed.

( ) A Nucleotide and/or Amino Acid Sequence Submission is enclosed.

( ) A Computer Readable Copy is enclosed.

( ) A Paper Copy (Identical to Computer Copy) is enclosed.

( ) A Statement Verifying Identity of above Copies is enclosed.

(X) The filing fee is calculated below:

Fee Calculation For Claims As Filed

(a) Basic Fee	\$ 760.00
(b) Independent Claims 2 - 3 = 0 x \$ 78.00 = \$ 0	
(c) Total Claims 7 - 20 = 0 x \$ 18.00 = \$ 0	
(d) Fee for Multiply Dependent Claims \$260.00	\$ _____
Total Filing Fee \$ _____	

( ) A Statement(s) of Status as Small Entity is enclosed, reducing the Filing Fee by half to: \$ \_\_\_\_\_

( ) A check in the amount of \$\_\_\_\_\_ to cover the filing fee is enclosed.

( ) Charge \$\_\_\_\_\_ to Deposit Account No. 06-1135.

(X) The payment of the Filing Fee is to be deferred until the Declaration is filed. Do not charge our Deposit Account.

(X) A separate written request under 37 C.F.R. §1.136(a)(3), which is a general authorization to treat any concurrent or future reply requiring a petition for an extension of time under 37 C.F.R. §1.136(a) for its timely submission as incorporating a petition for an extension of time for the appropriate length of time, is enclosed.

(X) The Commissioner is hereby authorized to charge any additional fees which may be required in this application under 37 C.F.R. §§1.16-1.17 during its entire pendency, or credit any overpayment, to Deposit Account No. 06-1135. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1135. This sheet is filed in triplicate.

( ) Also enclosed:

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(X) Address all future communications to Customer Number 22242.



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October 22, 1999  
(Date)

  
Joseph E. Shipley  
Registration No. 31,137

## **Lid for Cooking Pan**

### Background of the Invention

The invention relates generally to pans for use in preparation of food, and more particularly to a lid assembly for a pan.

5       In the past, cooking pans have included various means to measure and display temperature information. One approach has been to insert a thermometer probe into a food item during cooking. See, e.g., U.S. Patent No. 5,771,783. This arrangement provides the user with an indication of the temperature at the center of the food item.  
10      U.S. Patent No. 3,701,344 discloses waterless cooking apparatus including a knob having an indicator that changes color in response to certain temperature changes. U.S. Patent No. 4,805,188 discloses a similar indicator for use with closed cooking vessels such as pressure cookers. Each of these indicators are mounted on the lid, and measure temperature at or near the surface of the lid.. A problem with temperature indicators of this type is that they typically have a slow response time, both with  
15      respect to increasing temperature and with respect to decreasing temperature.

Another approach has been to provide an audible signal, such as a whistle that sounds in response to increased vapor pressure in the pan. A valve or the like may be provided to enable the audible signal to be deactivated. Examples of audible signals of this type are disclosed, e.g., in U.S. patent No. 4,690,095 and No. 4,418,637.

20      A general object of the invention is to provide an improved method and apparatus for providing temperature information during cooking. A further object is to provide a cooking pan and lid assembly that are suitable for commercial mass production and commercial marketing, in that they are capable of economical manufacture, capable of being cleaned without undue difficulty, and have an attractive  
25      appearance.

## Summary of the Invention

The invention provides a knob assembly for a cooking pan lid assembly that includes improved visual and/or audible indicia of temperature conditions the pan.

5       The lid assembly includes a thin-walled metal lid and a knob assembly. The preferred means for providing visual indicia comprises a thermometer having a probe extending through the lid assembly to a predetermined point beneath the lid assembly, between the food and the lid assembly. The probe preferably extends only a short distance beneath the lid, e.g., about  $\frac{1}{2}$  in. to  $1 \frac{1}{2}$  in., and is not intended to contact the food items within the pan, but rather to measure the temperature thereabove. This  
10      arrangement enables the probe to measure temperature within the pan interior directly, and to be rapidly responsive to temperature changes. Temperature is visually indicated on a lid-mounted gauge affixed to the probe. The gauge may comprise a rotary mechanical needle associated with a dial, an electronic digital readout, or other suitable display arrangement.

15      The audible indication of temperature information is preferably provided by a whistle that provides an audible signal when water in the pan boils, or approaches boiling. The whistle preferably has a threaded body that engages a bore in the underside of the knob body from beneath the lid to act as a fastener securing the knob assembly in place, in addition to performing its audible function.

20      The thermometer is preferably fixedly mounted to a rotatable cap. The cap preferably has a dual function notch formed therein that operates both as a release to permit removal of the cap for cleaning, and as a valve to selectively enable and disable the whistle.

**Brief Description of the Drawings**

Fig. 1 is a perspective view of a cooking pan in accordance with a preferred embodiment of the invention.

Fig. 2 is a sectional elevational view thereof.

5 Fig. 3 is a sectional elevational view thereof, illustrating the lid assembly in an inverted orientation.

Fig. 4 is an exploded perspective view of the lid assembly.

**Detailed Description of Preferred Embodiments**

10 The invention is preferably embodied in a lid assembly 20 that includes a knob assembly with one or more temperature indicating features, and in a method of using the pan and lid assembly.

15 The illustrated pan 10 is of a construction generally suitable for consumer in-home use as a utensil for cooking and heating food items 18, particularly in stove top cooking applications. To this end, the pan preferably includes a flat bottom wall and one or more upstanding side walls 12, along with a first elongated primary handle 14 and a shorter secondary handle 16 disposed opposite the primary handle for supporting the pan.

20 The pan 10 may be used for waterless cooking, steaming, boiling, or various other methods of cooking or heating food items or liquids. In one particular method of use, wet vegetables may be placed in the pan and heated, with the temperature in the interior of the pan above the vegetables being indicated by a visible display.

When the temperature in the pan reaches the boiling point of water, an audible indicator sounds, and the rate at which heat is supplied to the pan is manually reduced

by operation of a burner control. In other methods, other types of food items may be cooked or heated, and the temperature indicating features may be used in other ways.

The pan 10 has an upwardly opening rim 22 for stably engaging a corresponding rim 24 on the lid assembly. The lid has a generally convex upper 5 surface 26 and a generally concave lower surface 28. The lid assembly and pan in the illustrated embodiment are of generally circular configuration. In other embodiments, the pan and lid assembly may have other shapes.

The lid assembly includes a knob assembly 30 which functions as a means to lift the lid assembly, and which also includes visible and audible means for indicating 10 temperature. It should be appreciated that, while both visible and audible means are included in the embodiments described in detail herein, they may function independently of one another, and in other embodiments of the invention, one or the other may be eliminated.

Visible indication of temperature is provided by a thermometer 32 having a 15 gauge 34 supported on the upper surface of the knob assembly 30. The thermometer has a probe 36 extending through an aperture 38 in the knob body 66 and through an opening 40 in the lid to a location beneath the lower surface of the lid. As illustrated in FIG. 2, the lower end 42 of the probe is disposed slightly above the elevation of the rim 24 of the lid. In this position, the probe can measure the temperature of the air 20 and vapor in the interior of the pan above the food items 18, and thus can measure the instantaneous temperature of air and/or vapor in the pan, without its response time being delayed by the lid, by the food items, or by the knob assembly. The disposition of the tip of the probe above the rim also permits the lid to be placed flat on a counter top or other support surface without the probe contacting the supporting surface. 25 The probe may be a thin-walled, hollow tubular structure. The bottom end 42 or tip of the probe may contain a thermocouple or other temperature sensing device connected electrically to or otherwise communicating with the gauge 34.

In the preferred embodiments, an audible indication of temperature is provided by a whistle, which may be of the type described and shown in U.S. Patent No.

4,418,637, No. 4,776,296 or No. 4,134,358. The whistle comprises a whistle body 44 that extends upward from the lower surface 28 of the lid through an opening 46 in the lid to engage a bore in the bottom of the knob body. The whistle body may have external threads thereon for engagement with internal threads in the bore of the knob body, or may be press fit, keyed, or otherwise mechanically secured thereto.

5 Preferably, the whistle body serves not only as an audible indicator, but also as a fastener to secure the knob assembly to the lid. The whistle body has an aperture 48 in its top wall 50 for discharge of vapor during operation of the whistle. The body 66 of the knob has a discharge opening 52 therein communicating with the whistle aperture 48.

10 The knob assembly 30 includes a movable holder 54 that functions both as a holder to the thermometer and as a whistle control. The movable holder 54 is preferably made of a thermally insulative plastic or other non-metallic material, or thermally isolated from the lid. The holder 54 includes a raised annular handle 56 that surrounds the thermometer gauge and is secured thereto by frictional engagement or otherwise. The holder also includes a flat-bottomed circular base 58 that has a dual function notch 60 formed therein. The notch 60 operates selectively both as a release to selectively permit removal of the holder 54 for cleaning and as a vapor discharge slot to selectively enable and disable the whistle. The holder 54 is preferably 15 rotatable, and is supported in a circular recess 62 on the upper surface of the knob body 66. When the notch 60 is aligned with the discharge opening 52 in the knob body, vapor discharge from the whistle body is permitted, thereby enabling operation of the audible signal. When the notch is not aligned with the vapor discharge opening, discharge of vapor through the whistle body is inhibited, thus inhibiting 20 operation of the whistle.

25 The knob body 66 includes a retaining member 64 that normally engages the movable member to prevent the holder 54 from being lifted from the knob body. When the notch 60 is aligned with the retaining member, however, the holder 54 may be lifted from the knob body so as to disassemble the knob assembly for cleaning.

Labels 67 and 68, such as thin metal plates with graphics thereon, may be secured to the upper surface of the knob body 66 by adhesive or other means. A crescent shaped label 67 is provided adjacent the vapor discharge opening 52 with and second indicia or graphic symbols, words or the like 70 and 72 to align with a graphic symbol 78 such as a pointer or line segment on the holder 54 to indicate whether the whistle is activated or not.

The second label 68 may include, product identifying information, or other graphics.

In the illustrated embodiment, the knob assembly has a teardrop shape as viewed in plan, and has rounded channels or finger grips 74 formed in its sides to facilitate lifting of the lid. The knob body and holder are preferably molded from a plastic material. The knob body preferably is substantially hollow and lightweight, with the thermometer probe extending through a downwardly opening cavity 76 such that the probe contacts the knob body, if at all, only at its top wall.

As shown in FIG. 3, the lid assembly may be inverted and nested in the pan, and with the holder 54 removed, and the knob body has a sufficiently low profile to allow the lid to nest in the pan, with the rim of the inverted lid resting on the pan lid.

From the foregoing, it should be appreciated that the invention provides a novel and improved lid assembly and method of use. The invention is not limited to the embodiments described above nor to any particular embodiments. The invention is further described in the following claims.

We Claim:

1. A cooking vessel assembly comprising a pan, a removable lid assembly comprising a lid having a generally convex upper surface and a generally concave lower surface and a peripheral rim, said lid assembly further comprising a knob assembly on said upper surface and defining at least one aperture through said knob assembly and said lid, said lid assembly further comprising a thermometer including a probe extending downward through said aperture and a temperature display, wherein said probe has a bottom end disposed above the rim.  
5
2. A cooking vessel in accordance with claim 1 wherein said knob assembly includes a movable member having a dual function notch formed therein that operates selectively both as a release to selectively permit removal of the movable member for cleaning, and as a slot for vapor discharge to selectively enable the whistle.  
10
3. A cooking vessel in accordance with claim 2 wherein said knob assembly further includes a knob body attached to said lid, a whistle body that provides an audible signal in response to flow of vapor therethrough, and a vapor discharge aperture communicating with said whistle body through which vapor from the whistle body is discharged, and wherein said dual function notch is movable between a whistle-enabling position in which said notch is aligned with said vapor discharge aperture to permit discharge of vapor therethrough, and a range of whistle-disabling positions in which said notch is not aligned with said discharge aperture, such that said movable member inhibits discharge of vapor therethrough.  
15  
20

4. A cooking vessel in accordance with claim 3 wherein said knob body includes a retaining member, and wherein said notch is movable between a release position in which it is aligned with said retaining member and in which said movable member may be removed from said knob body, and a retained position in which said notch is not aligned with said retaining member, and said retaining member prevents removal of said movable member from said knob body.

5  
5. A cooking vessel in accordance with claim 4 wherein said movable member is rotatable.

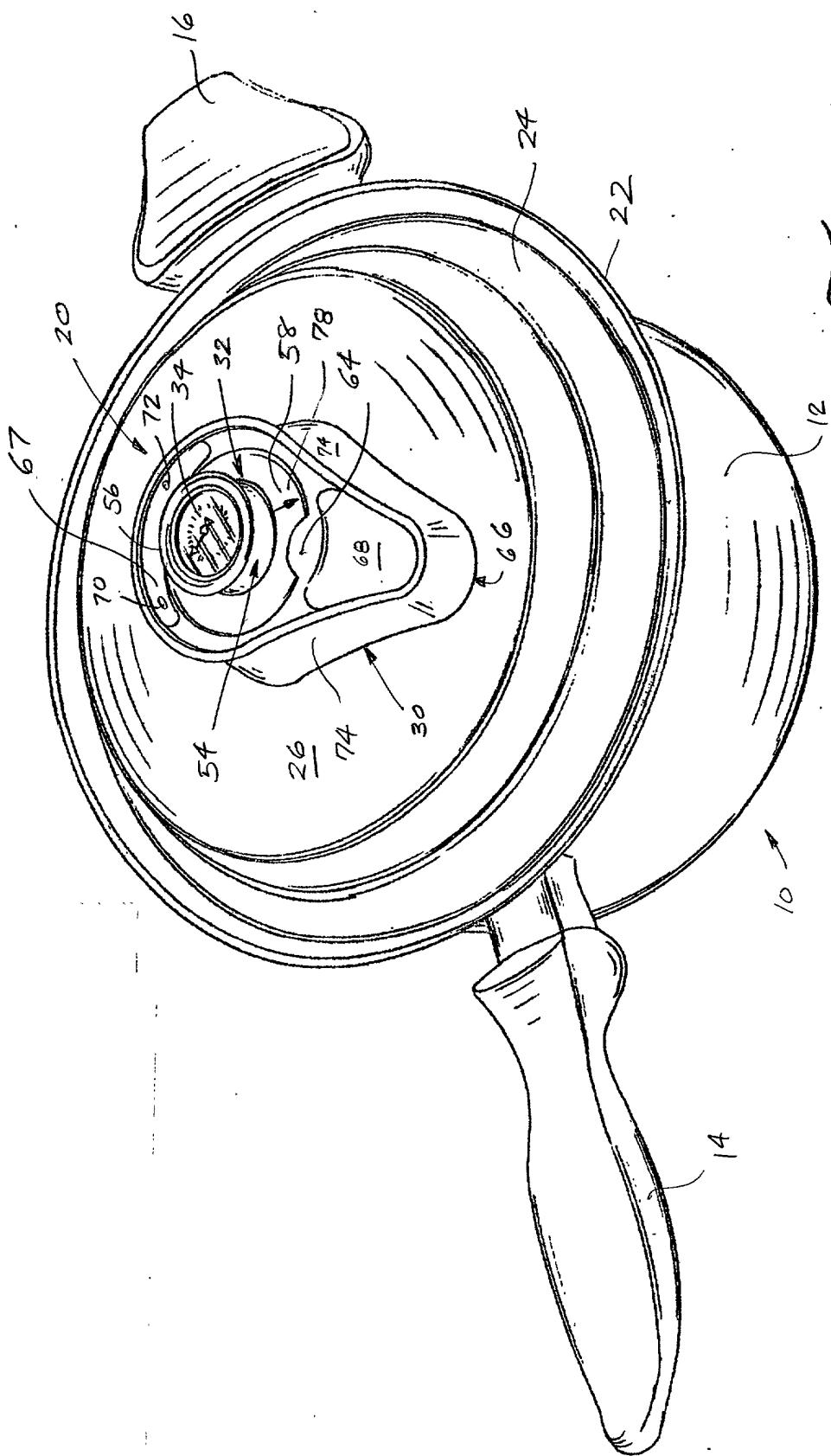
10  
6. A cooking vessel in accordance with claim 5 wherein said thermometer is fixedly attached to said movable member.

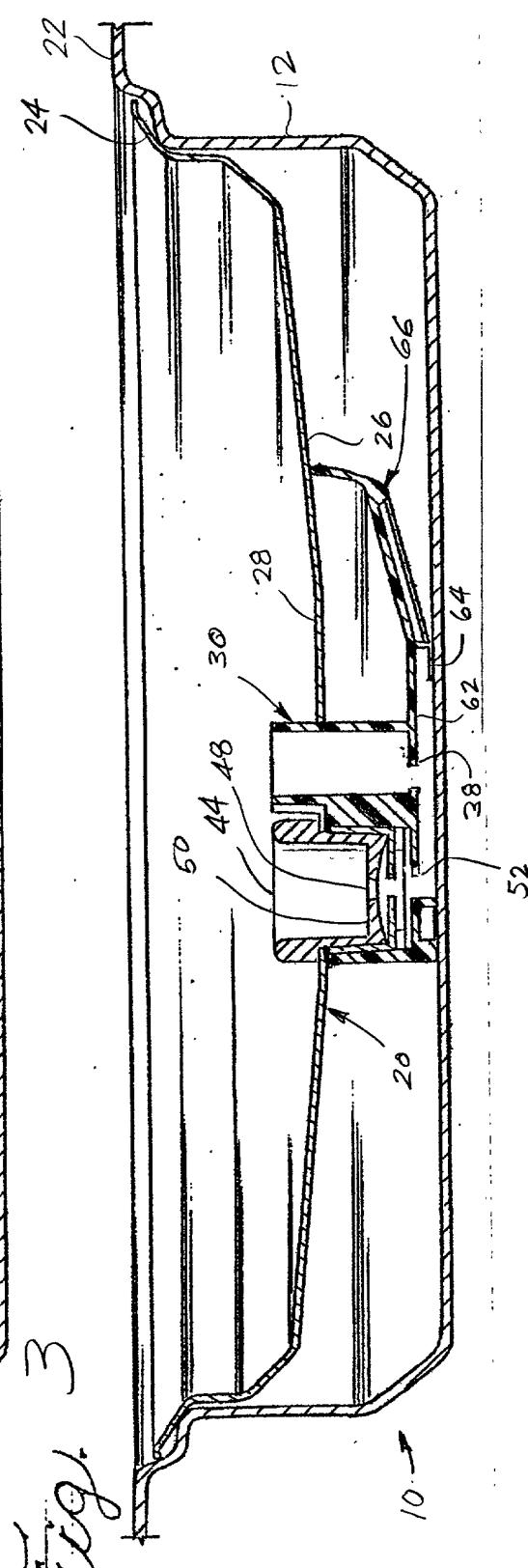
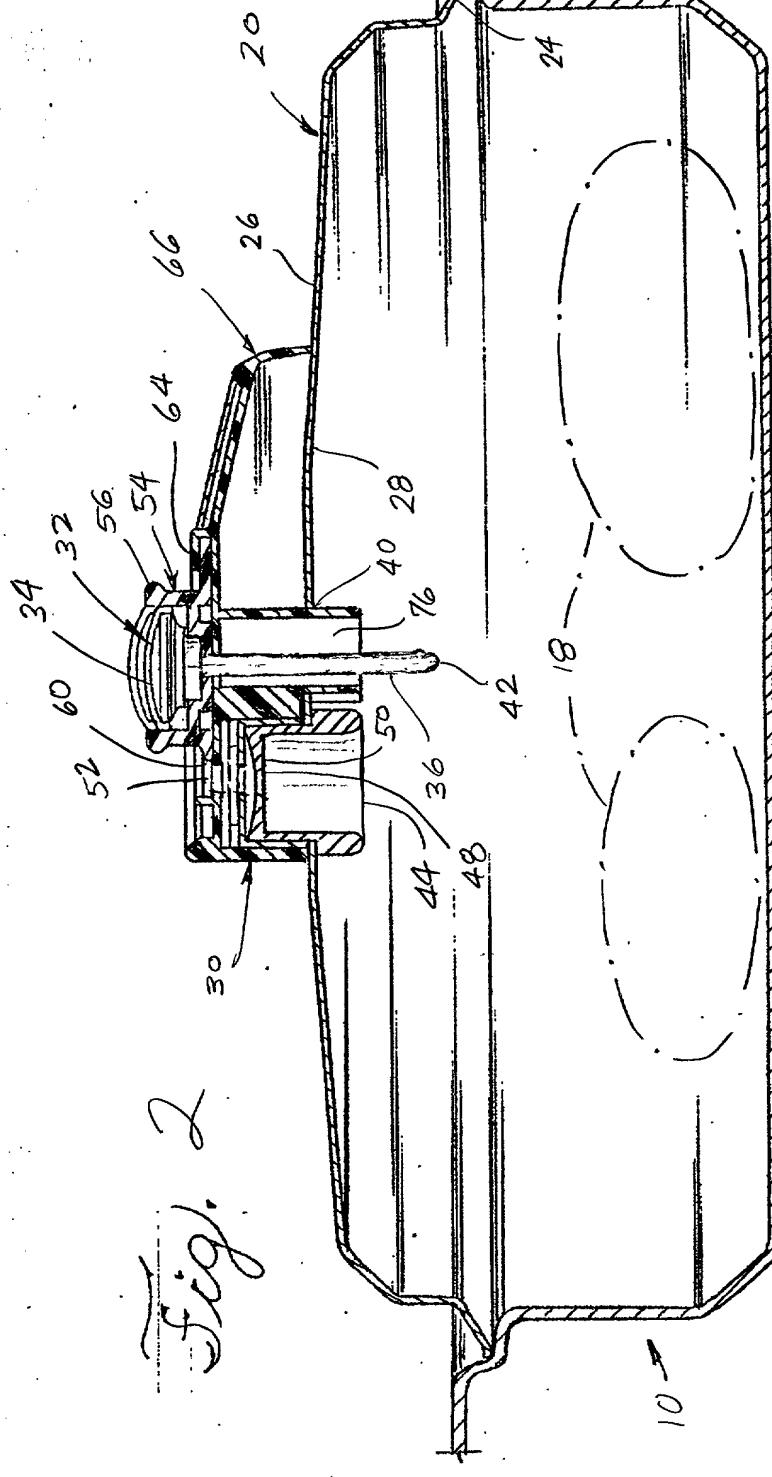
15  
7. A method of cooking comprising placing one or more food items in a cooking pan having a bottom wall, at least one side wall, and a removable lid assembly, said lid assembly having a knob assembly on said upper surface and said lid assembly having at least one aperture therethrough, and a thermometer including a probe extending downward through said aperture and a temperature display; applying heat to the bottom of the pan; measuring temperature by means of a said probe, said thermal probe having a lower end disposed above all of said food items to measure temperature between said food items and said lid assembly.

Abstract

A knob assembly for a cooking pan lid that includes an improved visual and/or audible indicator of temperature conditions within the pan.

Fig. 1





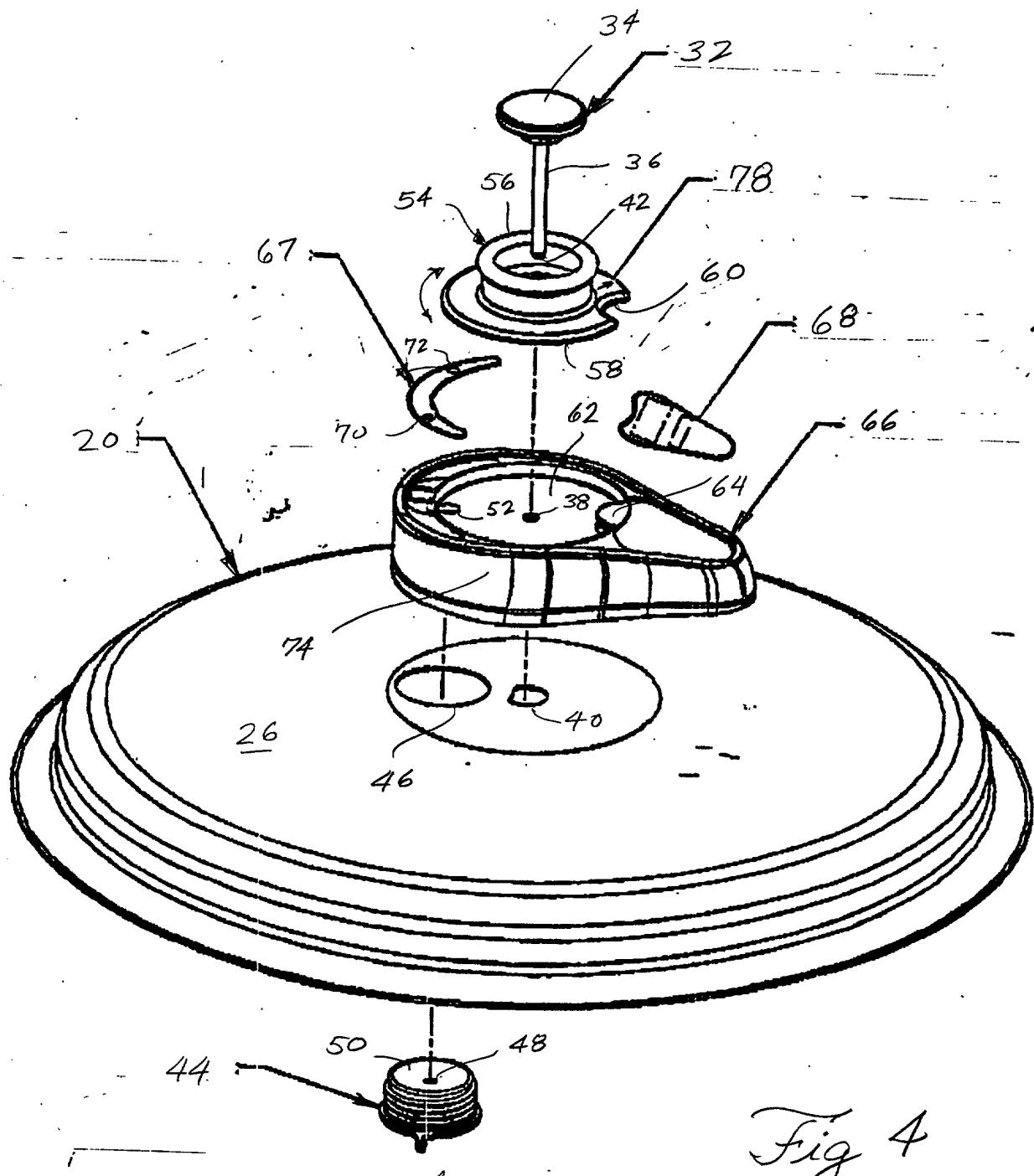


Fig 4

**DECLARATION  
FOR UTILITY OR DESIGN  
PATENT APPLICATION**

Declaration     Declaration  
Submitted                          Submitted  
With                              After  
Initial                         Initial  
Filing                         Filing

) Attorney Docket No.: 66635  
) First Named Inventor: Cappadona  
) \_\_\_\_\_  
)  
)  
Application Number: Not Yet Assigned  
)  
Filing Date: Herewith  
)  
Group Art Unit: Not Yet Assigned  
)  
Examiner Name: Not Yet Assigned

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

LID FOR COOKING PAN

(Title of Invention)

the specification of which:

is attached hereto, or

was filed by an authorized person on my behalf on \_\_\_\_\_  
(Date)  
as United States Application Number \_\_\_\_\_  
or PCT International Application Number \_\_\_\_\_,  
and was amended on \_\_\_\_\_ (if applicable).  
(Date)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT international application which designated at least one country other than the United States of America, listed below, and I have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or any PCT international application, on this invention filed by me or my legal representatives or assigns and having a filing date before that of the application on which priority is claimed:

<u>Prior Foreign Application Number(s)</u>	<u>Country</u>	<u>Foreign Filing Date</u>	<u>Priority Not Claimed</u>	<u>Certified Copy Attached</u>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

Additional foreign application numbers are listed on a supplemental priority data sheet attached hereto.

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional application(s) listed below:

Provisional Application Number(s)

Provisional Application Filing Date

Additional provisional application numbers are listed on a supplemental priority data sheet attached hereto.

I hereby claim the benefit under Title 35, United States Code, §120, of any prior United States application(s), or under §365(c) of any PCT international application(s) designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose all information known by me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56, which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

<u>Prior U.S. Application Number</u>	<u>Prior PCT International Application Number</u>	<u>Filing Date of U.S. or PCT International Application</u>	<u>Patent Number (if applicable)</u>
--------------------------------------	---	---	--------------------------------------

Additional U.S. or PCT international application numbers are listed on a supplemental priority data sheet attached hereto.

As a named inventor, I hereby appoint the practitioners associated with Customer Number 22242, with full power of substitution and revocation, to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith, and request that all correspondence and telephone calls in respect to this application be directed to FITCH, EVEN, TABIN & FLANNERY, Suite 1600, 120 South LaSalle

Street, Chicago, Illinois 60603-3406, Telephone No. (312) 577-7000,  
Facsimile No. (312) 577-7007, CUSTOMER NUMBER 22242.



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10/22/99

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made herein on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity or enforceability of the application or any patent issued thereon.

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Richard Robert Cappadona  
(Given names first, with Family name last)

Inventor's signature:

\_\_\_\_\_

Date:

\_\_\_\_\_

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\_\_\_\_\_

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\_\_\_\_\_

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